In the Claims:

Please amend the claims as follows:

1. (Currently amended) An unpolymerized ionizing radiation sensitive gel-like lamellar liposome delivery system at room temperature, comprising ~~a~~ stable liposome-forming ~~lipid~~ lipids and ~~an~~ discrete domains of ionizing radiation polymerizable ~~colipid;~~ colipids wherein said polymerizable colipid comprises a polymerizable group selected from the group consisting of diacetylenyl, acryloyl, methacryloyl, dienoyl, dienyl, sorbyl, muconyl, styryl, vinyl, and lipoyl and further comprising a releasable agent and wherein after administration to a patient the colipids are clustered in discrete domains.

Claims 2-3. Canceled.

4. (Previously presented) The liposome delivery system of claim 1, comprising from about 5 % to about 40 % polymerizable colipid.

5. (Previously presented) The liposome delivery system of claim 1, wherein the liposome further comprises a steric stabilizer.

6. (Previously presented) The liposome delivery system of claim 5, comprising from about 2 % to about 20 % steric stabilizer.

7. (Previously presented) The liposome delivery system of claim 5, comprising from about 5 % to about 40 % polymerizable colipid and from about 2 % to about 20 % steric stabilizer.

8. (Previously presented) The liposome delivery system of claim 5, wherein the steric stabilizer is a poly (ethylene glycol).

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Currently amended) The liposome delivery system of claim 1 ~~10~~, wherein the releasable agent is a water soluble molecule.

18. (Currently amended) The liposome delivery system of claim 1 ~~10~~, wherein the releasable agent is a lipid associated molecule.

19. (Currently amended) A pharmaceutical composition comprising a liposome delivery system of claim 1 ~~10~~, wherein the releasable agent is a therapeutic agent encapsulated in or associated with the liposome, and a pharmaceutically acceptable carrier or diluent.

20. (Currently amended) A method of treating a condition responsive to a therapeutic agent, comprising the steps of:

(i) administering to a patient a pharmaceutical composition comprising an unpolymerized ionizing radiation sensitive gel-like lamellar liposome delivery system, comprising ~~a~~ stable liposome-forming lipids ~~lipid, an~~ and discrete domains of ionizing radiation polymerizable colipids ~~colipid~~, wherein said polymerizable colipid comprises a polymerizable group selected

from the group consisting of diacetylenyl, acryloyl, methacryloyl, dienoyl, dienyl, sorbyl, muconyl, styryl, vinyl, and lipoyl; and further comprising a releasable therapeutic agent;

(ii) subjecting the patient to ionizing radiation to polymerize a fraction of said colipid, destabilize the liposome and release the therapeutic agent.

21. (Original) The method of claim 20, wherein the radiation ranges from about 5 to about 500 rads.

22. (Original) The method of claim 21, wherein the radiation ranges from about 50 to about 250 rads.

23. (Currently amended) A pharmaceutical composition comprising the liposome delivery system of claim 1 ~~10~~, wherein the releasable agent is a diagnostic agent encapsulated in or associated with the liposome, and a pharmaceutically acceptable carrier or diluent.

24. (Currently amended) A method of diagnosing the presence or progression of a disease, comprising the steps of:

(i) administering to a patient a diagnostic composition comprising an unpolymerized ionizing radiation sensitive gel-like lamellar liposome delivery system, comprising ~~a~~ stable liposome-forming lipids and discrete domains of ~~lipid, an~~ ionizing radiation polymerizable colipids ~~colipid~~, wherein said polymerizable colipid comprises a polymerizable group selected from the group consisting of diacetylenyl, acryloyl, methacryloyl, dienoyl, dienyl, sorbyl, muconyl, styryl, vinyl, and lipoyl; and further comprising a releasable diagnostic agent,

(ii) subjecting the patient to ionizing radiation in order to destabilize the liposome delivery system and release the diagnostic agent; and

(iii) diagnosing said disease through the use of molecular imaging techniques.

25. (Original) The method of claim 24, wherein the radiation ranges from about 5 to about 500 rads.

26. (Original) The method of claim 25, wherein the radiation ranges from about 50 to about 250 rads.

27. (Currently amended) A method of producing an ionizing radiation sensitive liposome delivery system comprising the steps of:

(i) selecting a stable liposome-forming lipid, ~~and~~ an ionizing radiation polymerizable colipid, wherein said polymerizable colipid comprises a polymerizable group selected from the group consisting of diacetylenyl, acryloyl, methacryloyl, dienoyl, dienyl, sorbyl, muconyl, styryl, vinyl, and lipoyl;

(ii) drying the lipids and colipids that comprise the liposome,

(iii) hydrating said lipids and colipids with a buffer, comprising agents to be encapsulated or associated in a desired molar ratio to create hydrated bilayers,

(iv) converting said bilayers into liposomes; and

(v) purifying the liposomes

to form ~~a~~ an unpolymerized radiation sensitive gel-like lamellar liposome delivery system at room temperature and wherein after administration to a patient the colipids are clustered in discrete domains.

28. (Previously presented) The method of claim 27, wherein the lipids and colipids are dried under a stream of an oxygen-free gas.

29. (Original) The method of claim 27, wherein the encapsulated or associated agents are therapeutic or diagnostic agents.

30. (Previously presented) The method of claim 27, wherein the bilayers are converted into liposomes by ultrasonification or freeze-thawing followed by extrusion.

31. (Original) The method of claim 27, wherein the liposomes are purified by gel permeation chromatography.

32. (Previously presented) A radiation sensitive liposome delivery system that can be targeted to a tumor site through attachment of at least one targeting peptide to the liposome of claim 10.

33. (Previously presented) The radiation sensitive liposome delivery system of claim 32, wherein the peptide is selected from the group consisting of antibodies, antibody fragments, and antigens.

34. (Previously presented) The liposome delivery system of Claim 1, comprising PEG_{2000}-distearoylPE, cholesterol, distearolylPC and bis-$SorbPC_{17,17}$.

35. (Previously presented) The liposome delivery system of Claim 1, comprising PEG_{2000}-distearoylPE, distearolylPC and bis-$SorbPC_{17,17}$.

36. (Currently amended) The ~~liposome delivery system~~ method of Claim 20 ~~1~~ wherein only about 5% of lipids are polymerized to cause destabilization of the liposomal membrane.

37. (Currently amended) An unpolymerized ionizing radiation sensitive gel-like lamellar liposome delivery system at room temperature, comprising ~~a~~ stable liposome-forming ~~lipid, a steric stabilizer~~ lipids and discrete domains of ~~an~~ ionizing radiation polymerizable ~~colipid~~ colipids wherein said polymerizable colipid comprises a polymerizable group selected from the group consisting of diacetylenyl, acryloyl, methacryloyl, dienoyl, dienyl, sorbyl, muconyl, styryl, vinyl, and lipoyl and further comprising a steric stabilizer and a releasable agent

38. (Canceled)

39. (Canceled)